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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/935,602	08/24/2001	Huang Meng-Suen	1907.P125	8988

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NEW YORK, NY 10112

EXAMINER
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SEVER, ANDREW T

ART UNIT	PAPER NUMBER
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2851

DATE MAILED: 09/24/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

09/935,602

MENG-SUEN, HUANG

Examiner

Art Unit

Andrew T Sever

2851

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3,5-7,9-15 and 17-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,5-7,9-15 and 17-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 August 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 10 September 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on September 10, 2002 have been approved. A proper drawing correction or corrected drawings are required in reply to the Office action to avoid **abandonment of the application**. The correction to the drawings will not be held in abeyance.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3, 5-7, 9-15, and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hicks (US 3,897,144) in view of Holloway (US 2,811,892.)

Hicks teaches in figures 2a and 2b (2b is a side view of a part of 2a), an image projector comprising: a film assembly (3), and a periscope (24 and 25) having a first aperture (5). The film assembly is configured so as to mount a film to scroll in front of said first aperture (5) of said periscope (24 and 25). The image projector is provided with a light source (21) for projecting light through the film and a lens (a known projection lens assembly 11) for focusing the light projected through the film and periscope. Hicks further teaches in column 2 lines 47-51 that the film is contained in a film transport system comprising take-spools (3 and 4) reversibly

Art Unit: 2851

driven and controlled by motors (not shown) in order to scroll the film in front of the first aperture. With regards to claim 20, Hicks in figure 4 teaches movable mirrors 44 and 45, which supplied to scan the film would inherently shift the light path after the light had been projected through the portions of the scrolling film. Hicks teaches in figure 2a that the periscope (as defined by the applicant) consists of in this order (and as is claimed by applicant's claims 11, 12, 18, and 19): a first aperture (5, not shown in figure 2a, but rather in figure 2b as explained above), two mirrors 24 and 25 and a 2<sup>nd</sup> aperture (18), which also serves to rotate the image if desired or needed to produce the image the user wants to project, and a projection lens 11.

Hicks further teaches in column 2 line 49-53 that the film transport system is a known film transport system. Hicks, however does not specifically teach a continuous film transport system utilizing a plurality of rollers configured to scroll the continuous film around the periscope and in front of the first aperture. Holloway teaches a known film transport system in figure 3. The film (54) is continuous being rejoined to itself at the seam (56). The film is supported by four rollers (46) as is claimed in applicant's claim 6, including one roller (68) that is rotated by a motor (62) and the rollers obviously rotate about a substantially parallel axes that is parallel to the mounting surface (11), as is claimed in applicant's claim 3. The continuous film forms a rectangular enclosure, which inherently requires that the rollers scroll the film in a direction substantially perpendicular to the axes of rotation of the rollers, as is claimed in applicant's claim 5. Various optics are included inside of the rectangular container made by the film including a lens (36) and a mirror (26). Holloway, however, does not teach this apparatus for use in a periscope projector, however mirror (26) could easily be substituted with the mirror taught in Hicks (42) which redirects the image light to a different plane then the plane which the

Art Unit: 2851

light source and film are disposed on, and is a part of the periscope. It was well known in the optical arts (as acknowledged by applicant in page 2 paragraph 3 of the specification) to mount the film assembly (or image source) and the projection lens such that the distance between them can be slidingly adjusted so that the path length between them is variable allowing for adjusting such things as focus, and projected image size. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the continuous film and driving apparatus taught by Holloway in the periscope based projector taught by Hicks and to design the projector so that the distance between the projection lens and the film assembly is slidingly adjustable, in order to allow Hicks' projector to project a continuous sequence of images that can easily be made to be in correct focus with minimal adjustments as is well known in the art. It would have also been obvious to place the aperture taught by Hicks either in front of the lens (36) or between the lens and the mirror (26) that are taught by Holloway (which would place the aperture inside the enclosure formed by the scrolling continuous film), this would be done, because Hicks teaches that the aperture is in front of the mirror (42) which is analogous to the mirror (26) taught by Holloway, in Hicks in view of Holloway.

With regards to claims 7 and 15 it was well known in the projector arts and in general in the arts that utilize scrolling films, for example: audio tape players, VCRs, and movie projectors; to have one of the rollers pivotally mounted in the film assembly so as to swing inwardly and outwardly in directions substantially perpendicular to the axes of rotation, and for that roller to be biased by a biasing spring in order to pull the film, when mounted, taut against said plurality of rollers. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have one (or more) of the rollers pivotally mounted so as to swing

Art Unit: 2851

inwardly and outwardly in directions substantially perpendicular to the axes of rotation, and for that roller(s) to be biased by a biasing spring in order to pull the film, when mounted, taut against said plurality of rollers.

With regards to applicant's claim 10, Hicks although not showing the motor, teaches that the motor is part of the film assembly and since not having the motor mounted in such a way that it moved with the film assembly would add unneeded complexity, it would have been obvious to one of ordinary skill in the art at the time the invention was made to mount the motor in the moving film assembly. With regards to applicant's claims 9 and 17, Hicks teaches in figure 23a that the entire projection apparatus is enclosed within a housing, which has walls (15).

With regards to claim 13, it is well known in the projector arts to utilize a series of mirrors for redirecting the light from the light source to the film or other imaging media, in order to keep the high temperature light source and thus its heat away from temperature sensitive components like film and liquid crystal light valves. One such well known way of doing this is to mount the components in the following order: light source, aperture to insure a uniform beam of light having a desired shape and size, a first and second mirror, a second aperture, the film, and then a projection lens.

### ***Response to Arguments***

4. Applicant's arguments filed Sept. 10, 2002 have been fully considered but they are not persuasive.

The applicant's arguments against the prior art is that the Hicks and Holloway patents, taken alone or in combination, fail to disclose or suggest a film assembly and

Art Unit: 2851

lens slidingly secured to each other such that a distance along a light path between the lens and a film mounted on the film assembly is variable in order to adjust the focusing. The examiner acknowledges that neither the Hicks or Holloway patents explicitly teaches this, however the applicant acknowledges on page 2 paragraph 3 that, "typically the lens and film holder are arranged such that a user may adjust the distance along the light path between the film and lens" in the prior art projectors. The addition by the applicant of a continuous moving film strip and a periscope does not render this extremely well known arrangement of having the distance between the lens and the film being adjustable non-obvious. This is typically how the focus is done in almost every type of projector including those using continuous film, slides, and those using light valves. Since this modification on a projector is so well known and acknowledge to be found in prior art projectors, the applicant's arguments against the prior art rejections are not persuasive.

All other objections and rejections not based on prior art in the previous office action have been withdrawn with the exception of the objection to the drawings as outlined in paragraph 1 of this action.

### ***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

Art Unit: 2851

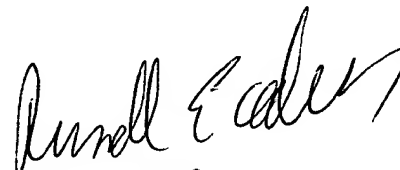
MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T Sever whose telephone number is 703-305-4036. The examiner can normally be reached M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russell Adams can be reached at 703-308-2847. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

AS  
September 18, 2002

  
RUSSELL ADAMS  
SUPERVISORY PATENT EXAMINER  
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